

**TDMS No.** 20519 - 02

**Test Type:** 90-DAY

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** MICE/B6C3F1

**P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL**

Metal working fluids (Syntilo 1023)

**CAS Number:** SYNTILO1023

**Date Report Requested:** 05/18/2011

**Time Report Requested:** 08:14:41

**First Dose M/F:** 11/03/08 / 11/03/08

**Lab:** BNW

F1\_M3

**C Number:** C20519

**Lock Date:** 06/09/2009

**Cage Range:** ALL

**Date Range:** ALL

**Reasons For Removal:** ALL

**Removal Date Range:** ALL

**Treatment Groups:** Include ALL

**Study Gender:** Both

**TDMSE Version:** 2.4.0.0\_003

**PWG Approval Date:** NONE

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		DAY ON TEST																			
		ANIMAL ID																			
B6C3F1 MICE MALE		Control																			
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1	2	3	4	5	6	7	8	9	0												

\* TOTALS

## ALIMENTARY SYSTEM

Esophagus	+ + + + + + + + + +	10
Gallbladder Mineralization	+ + + + + M + + + + +	9
Intestine Large, Cecum	+ + + + + + + + + +	10
Intestine Large, Colon	+ + + + + + + + + +	10
Intestine Large, Rectum	+ + + + + + + + + +	10
Intestine Small, Duodenum	+ + + + + + + + + +	10
Intestine Small, Ileum	+ + + + + + + + + +	10
Intestine Small, Jejunum	+ + + + + + + + + +	10
Liver	+ + + + + + + + + +	10
Pancreas	+ + + + + + + + + +	10
Salivary Glands	+ + + + + + + + + +	10
Stomach, Forestomach	+ + + + + + + + + +	10
Stomach, Glandular	+ + + + + + + + + +	10

## CARDIOVASCULAR SYSTEM

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

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Lab: BNW

B6C3F1 MICE MALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
Control	ANIMAL ID	9	9	9	9	9	9	9	9	9	9
		5	5	5	5	5	5	5	5	5	5
		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	1
		1	2	3	4	5	6	7	8	9	0
		* TOTALS									
Blood Vessel		+	+	+	+	+	+	+	+	+	10
Heart		+	+	+	+	+	+	+	+	+	10
<b>ENDOCRINE SYSTEM</b>											
Adrenal Cortex		+	+	+	+	+	+	+	+	+	10
Adrenal Medulla		+	+	+	+	+	+	+	+	+	10
Islets, Pancreatic		+	+	+	+	+	+	+	+	+	10
Parathyroid Gland		+	M	M	+	M	+	M	+	+	6
Pituitary Gland		+	+	+	+	+	+	+	+	+	10
Thyroid Gland		+	+	+	+	+	+	+	+	+	10
<b>GENERAL BODY SYSTEM</b>											
NONE											
<b>GENITAL SYSTEM</b>											
Epididymis		+	+	+	+	+	+	+	+	+	10
Preputial Gland		+	+	+	+	+	+	+	+	+	10
Prostate		+	+	+	+	+	+	+	+	+	10
Seminal Vesicle		+	+	+	+	+	+	+	+	+	10

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B6C3F1 MICE MALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
Control	ANIMAL ID	9	9	9	9	9	9	9	9	9	9
		5	5	5	5	5	5	5	5	5	5
		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	1
		1	2	3	4	5	6	7	8	9	0
		* TOTALS									
Testes		+	+	+	+	+	+	+	+	+	10
<b>HEMATOPOIETIC SYSTEM</b>											
Bone Marrow		+	+	+	+	+	+	+	+	+	10
Lymph Node, Bronchial		+	+	+	M	+	+	+	+	M	8
Lymph Node, Mandibular		+	+	M	+	M	+	M	+	+	7
Lymph Node, Mediastinal		+	M	+	M	+	+	+	M	M	6
Lymph Node, Mesenteric		+	+	+	+	+	+	+	+	+	10
Spleen		+	+	+	+	+	+	+	+	+	10
Thymus		+	+	+	+	+	+	+	+	+	10
<b>INTEGUMENTARY SYSTEM</b>											
Mammary Gland		M	M	M	M	M	M	M	M	M	0
Skin		+	+	+	+	+	+	+	+	+	10
<b>MUSCULOSKELETAL SYSTEM</b>											
Bone		+	+	+	+	+	+	+	+	+	10
<b>NERVOUS SYSTEM</b>											
Brain		+	+	+	+	+	+	+	+	+	10

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		DAY ON TEST																			
		ANIMAL ID																			
B6C3F1 MICE MALE		Control																			
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	2	3	4	5	6	7	8	9	0												

\* TOTALS

## RESPIRATORY SYSTEM

Larynx	+	+	+	+	+	+	+	+	+	+	+	10
Lung	+	+	+	+	+	+	+	+	+	+	+	10
Nose	+	+	+	+	+	+	+	+	+	+	+	10
Trachea	+	+	+	+	+	+	+	+	+	+	+	10
Inflammation, Chronic							1					1 1.0

## SPECIAL SENSES SYSTEM

Eye	+	+	+	+	+	+	+	+	+	+	+	10
Harderian Gland	+	+	+	+	+	+	+	+	+	+	+	10

## URINARY SYSTEM

Kidney	+	+	+	+	+	+	+	+	+	+	+	10
Nephropathy	1											1 1.0
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	+	10

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		DAY ON TEST											
		0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0
		9	9	9	9	9	9	9	9	9	9	9	9
		5	5	5	5	5	5	5	5	5	5	5	5
		0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0
		2	2	2	2	2	2	2	2	2	2	2	2
		0	0	0	0	0	0	0	0	0	0	1	1
		1	2	3	4	5	6	7	8	9	9	0	0

\* TOTALS

### ALIMENTARY SYSTEM

NONE

### CARDIOVASCULAR SYSTEM

NONE

### ENDOCRINE SYSTEM

NONE

### GENERAL BODY SYSTEM

NONE

### GENITAL SYSTEM

NONE

### HEMATOPOIETIC SYSTEM

NONE

### INTEGUMENTARY SYSTEM

NONE

### MUSCULOSKELETAL SYSTEM

NONE

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

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Lab: BNW

		DAY ON TEST											
		ANIMAL ID											
B6C3F1 MICE MALE		0	0	0	0	0	0	0	0	0	0	0	0
25 mg/m3		0	0	0	0	0	0	0	0	0	0	0	0
		9	9	9	9	9	9	9	9	9	9	9	9
		5	5	5	5	5	5	5	5	5	5	5	5
		0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0
		2	2	2	2	2	2	2	2	2	2	2	2
		0	0	0	0	0	0	0	0	0	0	1	1
		1	2	3	4	5	6	7	8	9	0	0	0

\* TOTALS

## NERVOUS SYSTEM

NONE

## RESPIRATORY SYSTEM

Larynx

Inflammation, Chronic Active

Metaplasia, Squamous

+	+	+	+	+	+	+	+	+	+	+	+	+	10
1	1	1	1	2	2	1	1	2	2				10 1.4
1	1	1	2	1	2	2	1	2	1				10 1.4

Lung

+	+	+	+	+	+	+	+	+	+	+	+	+	10
---	---	---	---	---	---	---	---	---	---	---	---	---	----

Nose

+	+	+	+	+	+	+	+	+	+	+	+	+	10
---	---	---	---	---	---	---	---	---	---	---	---	---	----

Trachea

+	+	+	+	+	+	+	+	+	+	+	+	+	10
---	---	---	---	---	---	---	---	---	---	---	---	---	----

## SPECIAL SENSES SYSTEM

NONE

## URINARY SYSTEM

NONE

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Lab: BNW

		DAY ON TEST									
		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		9	9	9	9	9	9	9	9	9	9
		5	5	5	5	5	5	5	5	5	5
		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		4	4	4	4	4	4	4	4	4	4
		0	0	0	0	0	0	0	0	0	1
		1	2	3	4	5	6	7	8	9	0

\* TOTALS

### ALIMENTARY SYSTEM

NONE

### CARDIOVASCULAR SYSTEM

NONE

### ENDOCRINE SYSTEM

NONE

### GENERAL BODY SYSTEM

NONE

### GENITAL SYSTEM

NONE

### HEMATOPOIETIC SYSTEM

NONE

### INTEGUMENTARY SYSTEM

NONE

### MUSCULOSKELETAL SYSTEM

NONE

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

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		DAY ON TEST									
		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		9	9	9	9	9	9	9	9	9	9
		5	5	5	5	5	5	5	5	5	5
		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		4	4	4	4	4	4	4	4	4	4
		0	0	0	0	0	0	0	0	0	1
		1	2	3	4	5	6	7	8	9	0

\* TOTALS

**NERVOUS SYSTEM**

NONE

**RESPIRATORY SYSTEM**

Larynx

Inflammation, Chronic Active

Metaplasia, Squamous

+	+	+	+	+	+	+	+	+	+	+	10
1	1	2	2	1	2	1	2	2	2	2	10 1.6
3	2	2	2	2	2	2	2	2	2	3	10 2.2

Lung

+	+	+	+	+	+	+	+	+	+	+	10
---	---	---	---	---	---	---	---	---	---	---	----

Nose

+	+	+	+	+	+	+	+	+	+	+	10
---	---	---	---	---	---	---	---	---	---	---	----

Trachea

+	+	+	+	+	+	+	+	+	+	+	10
---	---	---	---	---	---	---	---	---	---	---	----

**SPECIAL SENSES SYSTEM**

NONE

**URINARY SYSTEM**

NONE

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		DAY ON TEST											
		0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0
		9	9	9	9	9	9	9	9	9	9	9	9
		5	5	5	5	5	5	5	5	5	5	5	5
		0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0
		6	6	6	6	6	6	6	6	6	6	6	6
		0	0	0	0	0	0	0	0	0	0	0	1
		1	2	3	4	5	6	7	8	9	9	9	0

\* TOTALS

### ALIMENTARY SYSTEM

NONE

### CARDIOVASCULAR SYSTEM

NONE

### ENDOCRINE SYSTEM

NONE

### GENERAL BODY SYSTEM

NONE

### GENITAL SYSTEM

NONE

### HEMATOPOIETIC SYSTEM

Spleen

+

1

### INTEGUMENTARY SYSTEM

NONE

### MUSCULOSKELETAL SYSTEM

NONE

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		DAY ON TEST											
		ANIMAL ID											
B6C3F1 MICE MALE		100 mg/m3											
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	9	9	9	9	9	9	9	9	9	9	9	9	9
5	5	5	5	5	5	5	5	5	5	5	5	5	5
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	6	6	6	6	6	6	6	6	6	6	6	6	6
0	0	0	0	0	0	0	0	0	0	0	0	1	1
1	2	3	4	5	6	7	8	9	9	0			

\* TOTALS

**NERVOUS SYSTEM**

NONE

**RESPIRATORY SYSTEM**

Larynx

Inflammation, Chronic Active

Metaplasia, Squamous

+	+	+	+	+	+	+	+	+	+	+	+	+	+
2	2	2	2	2	2	2	2	2	2	2	2	2	2
3	4	4	4	4	4	4	4	4	4	4	4	3	

10  
10 2.0  
10 3.8

Lung

+	+	+	+	+	+	+	+	+	+	+	+	+	+
---	---	---	---	---	---	---	---	---	---	---	---	---	---

10

Nose

Respiratory Epithelium, Accumulation, Hyaline  
Droplet

+	+	+	+	+	+	+	+	+	+	+	+	+	+
													1

10  
1 1.0

Trachea

+	+	+	+	+	+	+	+	+	+	+	I		
---	---	---	---	---	---	---	---	---	---	---	---	--	--

9

**SPECIAL SENSES SYSTEM**

NONE

**URINARY SYSTEM**

NONE

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

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Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Syntilo 1023)

CAS Number: SYNTILO1023

Date Report Requested: 05/18/2011

Time Report Requested: 08:14:41

First Dose M/F: 11/03/08 / 11/03/08

Lab: BNW

		DAY ON TEST											
		0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0
		9	9	9	9	9	9	9	9	9	9	9	9
		5	5	5	5	5	5	5	5	5	5	5	5
		0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0
		8	8	8	8	8	8	8	8	8	8	8	8
		0	0	0	0	0	0	0	0	0	0	0	1
		1	2	3	4	5	6	7	8	9	9	9	0

\* TOTALS

### ALIMENTARY SYSTEM

NONE

### CARDIOVASCULAR SYSTEM

NONE

### ENDOCRINE SYSTEM

Pituitary Gland

+

1

### GENERAL BODY SYSTEM

NONE

### GENITAL SYSTEM

NONE

### HEMATOPOIETIC SYSTEM

NONE

### INTEGUMENTARY SYSTEM

NONE

### MUSCULOSKELETAL SYSTEM

NONE

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20519 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Syntilo 1023)

CAS Number: SYNTILO1023

Date Report Requested: 05/18/2011

Time Report Requested: 08:14:41

First Dose M/F: 11/03/08 / 11/03/08

Lab: BNW

		DAY ON TEST											
		ANIMAL ID											
B6C3F1 MICE MALE		0	0	0	0	0	0	0	0	0	0	0	0
200 mg/m3		0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0
		8	8	8	8	8	8	8	8	8	8	8	8
		0	0	0	0	0	0	0	0	0	0	0	1
		1	2	3	4	5	6	7	8	9	9	0	0

\* TOTALS

**NERVOUS SYSTEM**

NONE

**RESPIRATORY SYSTEM**

## Larynx

Erosion, Focal

Inflammation, Chronic Active

Metaplasia, Squamous

Ulcer, Focal

+	+	+	+	+	+	+	+	+	+	+	+	10
			2				1					2 1.5
2	2	2	2	2	2	2	2	3	2			10 2.1
4	4	4	4	4	4	4	4	4	4			10 4.0
	1			1		2						3 1.3

## Lung

Bronchiole, Goblet Cell, Hyperplasia

Perivascular, Inflammation, Chronic Active

+	+	+	+	+	+	+	+	+	+	+	+	10
					3							1 3.0
					1							1 1.0

## Nose

Olfactory Epithelium, Accumulation, Hyaline  
DropletRespiratory Epithelium, Accumulation, Hyaline  
Droplet

+	+	+	+	+	+	+	+	+	+	+	+	10
1		1										2 1.0
1	1	1		2		1	1	1				7 1.1

## Trachea

Inflammation, Chronic

+	+	+	+	+	+	+	+	+	+	+	+	10
												1 1.0

**SPECIAL SENSES SYSTEM**

NONE

**URINARY SYSTEM**

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20519 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Syntilo 1023)

CAS Number: SYNTILO1023

Date Report Requested: 05/18/2011

Time Report Requested: 08:14:41

First Dose M/F: 11/03/08 / 11/03/08

Lab: BNW

		DAY ON TEST									
		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		9	9	9	9	9	9	9	9	9	9
		5	5	5	5	5	5	5	5	5	5
		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		8	8	8	8	8	8	8	8	8	8
		0	0	0	0	0	0	0	0	0	1
		1	2	3	4	5	6	7	8	9	0

\* TOTALS

NONE

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

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BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20519 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Syntilo 1023)

CAS Number: SYNTILO1023

Date Report Requested: 05/18/2011

Time Report Requested: 08:14:41

First Dose M/F: 11/03/08 / 11/03/08

Lab: BNW

B6C3F1 MICE MALE	400 mg/m <sup>3</sup>	DAY ON TEST	0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	0
ANIMAL ID			9	9	9	9	9	9	9	9	9	9
			5	5	5	5	5	5	5	5	5	5
			0	0	0	0	0	0	0	0	0	0
			1	1	1	1	1	1	1	1	1	1
			0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	1
			1	2	3	4	5	6	7	8	9	0
			* TOTALS									

## ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	10
Gallbladder	M	+	+	M	+	M	+		+	M			5
Inflammation, Neutrophil								1					1 1.0
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	+	+	10
Liver	+	+	+	+	+	+	+	+	+	+	+	+	10
Pancreas	+	+	+	+	+	+	+	+	+	+	+	+	10
Salivary Glands	+	+	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	+	+	10

## CARDIOVASCULAR SYSTEM

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20519 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Syntilo 1023)

CAS Number: SYNTILO1023

Date Report Requested: 05/18/2011

Time Report Requested: 08:14:41

First Dose M/F: 11/03/08 / 11/03/08

Lab: BNW

B6C3F1 MICE MALE	400 mg/m <sup>3</sup>	DAY ON TEST													* TOTALS
			0	0	0	0	0	0	0	0	0	0	0	0	
ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Blood Vessel			+	+	+	+	+	+	+	+	+	+	+	+	10
Heart			+	+	+	+	+	+	+	+	+	+	+	+	10
<b>ENDOCRINE SYSTEM</b>															
Adrenal Cortex			+	+	+	+	+	+	+	+	+	+	+	+	10
Adrenal Medulla			+	+	+	+	+	+	+	+	+	+	+	+	10
Islets, Pancreatic			+	+	+	+	+	+	+	+	+	+	+	+	10
Parathyroid Gland			M	+	M	+	+	+	+	+	M	M			6
Pituitary Gland			+	+	+	+	+	+	+	+	+	+	+	+	10
Thyroid Gland			+	+	+	+	+	+	+	+	+	+	+	+	10
<b>GENERAL BODY SYSTEM</b>															
NONE															
<b>GENITAL SYSTEM</b>															
Epididymis			+	+	+	+	+	+	+	+	+	+	+	+	10
Preputial Gland			+	+	+	+	+	+	+	+	+	+	+	+	10
Prostate			+	+	+	+	+	+	+	+	+	+	+	+	10
Seminal Vesicle			+	+	+	+	+	+	+	+	+	+	+	+	10

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

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TDMS No. 20519 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Syntilo 1023)

CAS Number: SYNTILO1023

Date Report Requested: 05/18/2011

Time Report Requested: 08:14:41

First Dose M/F: 11/03/08 / 11/03/08

Lab: BNW

B6C3F1 MICE MALE	400 mg/m <sup>3</sup>	DAY ON TEST											* TOTALS
			0 0 9 5										
		ANIMAL ID	0 1 0 0										
Testes			+	+	+	+	+	+	+	+	+	+	10
<b>HEMATOPOIETIC SYSTEM</b>													
Bone Marrow			+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Bronchial			+	+	+	+	+	M	+	+	+	+	9
Lymph Node, Mandibular			M	+	+	+	+	M	M	+	+	+	7
Lymph Node, Mediastinal			M	+	M	+	+	M	M	M	M	+	4
Lymph Node, Mesenteric			+	+	+	+	+	+	+	+	+	+	10
Spleen			+	+	+	+	+	+	+	+	+	+	10
Thymus			+	+	+	+	+	+	+	+	+	+	10
<b>INTEGUMENTARY SYSTEM</b>													
Mammary Gland			M	M	M	M	M	M	M	M	M	M	0
Skin			+	+	+	+	+	+	+	+	+	+	10
<b>MUSCULOSKELETAL SYSTEM</b>													
Bone			+	+	+	+	+	+	+	+	+	+	10
<b>NERVOUS SYSTEM</b>													
Brain			+	+	+	+	+	+	+	+	+	+	10

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

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TDMS No. 20519 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

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Metal working fluids (Syntilo 1023)

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First Dose M/F: 11/03/08 / 11/03/08

Lab: BNW

B6C3F1 MICE MALE	400 mg/m <sup>3</sup>	ANIMAL ID	DAY ON TEST										* TOTALS
			0 0 9 5	0 0 9 5									
			0 1 0 0 1 2	0 1 0 0 1 3	0 1 0 0 1 4	0 1 0 0 1 5	0 1 0 0 1 6	0 1 0 0 1 7	0 1 0 0 1 8	0 1 0 0 1 9	0 1 0 0 1 0		

## RESPIRATORY SYSTEM

## Larynx

Inflammation, Chronic Active

Metaplasia, Squamous

Ulcer, Focal

## Lung

Infiltration Cellular, Histiocyte

Arteriole, Hypertrophy

Bronchiole, Goblet Cell, Hyperplasia

Perivascular, Inflammation, Chronic Active

## Nose

Olfactory Epithelium, Accumulation, Hyaline

Droplet

Respiratory Epithelium, Accumulation, Hyaline

Droplet

## Trachea

+	+	+	+	+	+	+	+	+	+	+	+	+	10
2	3	3	3	2	2	3	2	2	2	3			10 2.5
4	4	4	4	4	4	4	4	4	4	4			10 4.0
1	3	3	2			3	1	1	1	2			8 2.0

+	+	+	+	+	+	+	+	+	+	+	+	+	10
													1 2.0
													1 1.0
													1 3.0
													1 3.0

+	+	+	+	+	+	+	+	+	+	+	+	+	10
2	2	1	1	1	1	1	2	2	2	1			8 1.4
2	3	2	2	2	2	1	3	1	1	2			9 2.0

+	+	+	+	+	+	+	+	+	+	+	+	+	10
---	---	---	---	---	---	---	---	---	---	---	---	---	----

## SPECIAL SENSES SYSTEM

## Eye

+	+	+	+	+	+	+	+	+	+	+	+	+	10
---	---	---	---	---	---	---	---	---	---	---	---	---	----

## Harderian Gland

+	+	+	+	+	+	+	+	+	+	+	+	+	10
---	---	---	---	---	---	---	---	---	---	---	---	---	----

## URINARY SYSTEM

## Kidney

+	+	+	+	+	+	+	+	+	+	+	+	+	10
													1 1.0

## Casts

+	+	+	+	+	+	+	+	+	+	+	+	+	10
													1 1.0

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20519 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Syntilo 1023)

CAS Number: SYNTILO1023

Date Report Requested: 05/18/2011

Time Report Requested: 08:14:41

First Dose M/F: 11/03/08 / 11/03/08

Lab: BNW

		DAY ON TEST	0	0	0	0	0	0	0	0	0	
		ANIMAL ID	0	0	0	0	0	0	0	0	0	
<b>B6C3F1 MICE MALE</b>			9	9	9	9	9	9	9	9	9	
<b>400 mg/m3</b>			5	5	5	5	5	5	5	5	5	
			0	0	0	0	0	0	0	0	0	
			1	1	1	1	1	1	1	1	1	
			0	0	0	0	0	0	0	0	0	
			0	0	0	0	0	0	0	0	1	
			1	2	3	4	5	6	7	8	9	0
<b>* TOTALS</b>												
Nephropathy			1			1		1	1			4 1.0
Cortex, Infarct, Focal					X							1
Urinary Bladder			+	+	+	+	+	+	+	+	+	10

\*\*\* END OF MALE DATA \*\*\*

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

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1-4 .. Lesion qualified as:

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2) Mild 4) Marked

TDMS No. 20519 - 02

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Time Report Requested: 08:14:41

First Dose M/F: 11/03/08 / 11/03/08

Lab: BNW

		DAY ON TEST									
		ANIMAL ID									
B6C3F1 MICE FEMALE		Control	0	0	0	0	0	0	0	0	0
			9	9	9	9	9	9	9	9	9
			6	6	6	6	6	6	6	6	6
			0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0
			1	1	1	1	1	1	1	1	1
			0	0	0	0	0	0	0	0	1
			1	2	3	4	5	6	7	8	9
											0

\* TOTALS

## ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	10
Gallbladder	+	+	+	+	+	+	+	+	+	+	10
Inflammation, Neutrophil											1 1.0
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Rectum	+	+	+		+	+	+	+	+	+	9
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	10
Liver	+	+	+	+	+	+	+	+	+	+	10
Necrosis, Focal											1 1.0
Pancreas	+	+	+	+	+	+	+	+	+	+	10
Salivary Glands	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	10

## CARDIOVASCULAR SYSTEM

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20519 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Syntilo 1023)

CAS Number: SYNTILO1023

Date Report Requested: 05/18/2011

Time Report Requested: 08:14:41

First Dose M/F: 11/03/08 / 11/03/08

Lab: BNW

B6C3F1 MICE FEMALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
Control	ANIMAL ID	9	9	9	9	9	9	9	9	9	9
		6	6	6	6	6	6	6	6	6	6
<b>* TOTALS</b>											
Blood Vessel		+	+	+	+	+	+	+	+	+	+
Heart		+	+	+	+	+	+	+	+	+	+
<b>ENDOCRINE SYSTEM</b>											
Adrenal Cortex		+	+	+	+	+	+	+	+	+	+
Adrenal Medulla		+	+	+	+	+	+	+	+	+	M
Islets, Pancreatic		+	+	+	+	+	+	+	+	+	+
Parathyroid Gland		M	+	M	M	M	M	+	+	M	M
Pituitary Gland		+	+	+	+	+	+	+	+	+	+
Thyroid Gland		+	+	+	+	+	+	+	+	+	+
<b>GENERAL BODY SYSTEM</b>											
NONE											
<b>GENITAL SYSTEM</b>											
Clitoral Gland		+	+	M	+	+	+	+	+	M	M
Ovary		+	+	+	+	+	+	+	+	+	+
Uterus		+	+	+	+	+	+	+	+	+	+
<b>HEMATOPOIETIC SYSTEM</b>											

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

M .. Missing tissue

X .. Lesion present

A .. Autolysis precludes evaluation

I .. Insufficient tissue

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20519 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Syntilo 1023)

CAS Number: SYNTILO1023

Date Report Requested: 05/18/2011

Time Report Requested: 08:14:41

First Dose M/F: 11/03/08 / 11/03/08

Lab: BNW

B6C3F1 MICE FEMALE	DAY ON TEST											* TOTALS
		0 0 9 6										
Control	ANIMAL ID	0 0 1 0 1	0 0 1 0 2	0 0 1 0 3	0 0 1 0 4	0 0 1 0 5	0 0 1 0 6	0 0 1 0 7	0 0 1 0 8	0 0 1 0 9	0 0 1 0 0	* TOTALS
Bone Marrow		+ + + + + + + + + +										10
Lymph Node, Bronchial		+ + + + + + M + M +										8
Lymph Node, Mandibular		M + M + + M + + + +										7
Lymph Node, Mediastinal		M + + M M + M M M M										3
Lymph Node, Mesenteric		M + + + + + + + + + +										9
Spleen		+ + + + + + + + + +										10
Thymus		+ + + + + + + + + +										10
<b>INTEGUMENTARY SYSTEM</b>												
Mammary Gland		+ + + + + + + + + +										10
Skin		+ + + + + + + + + +										10
<b>MUSCULOSKELETAL SYSTEM</b>												
Bone		+ + + + + + + + + +										10
<b>NERVOUS SYSTEM</b>												
Brain		+ + + + + + + + + +										10
<b>RESPIRATORY SYSTEM</b>												
Larynx		+ + + + + + +   + + +										9

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20519 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Syntilo 1023)

CAS Number: SYNTILO1023

Date Report Requested: 05/18/2011

Time Report Requested: 08:14:41

First Dose M/F: 11/03/08 / 11/03/08

Lab: BNW

B6C3F1 MICE FEMALE	DAY ON TEST													
		0 0 9 6												
Control	ANIMAL ID	0 0 1 0 1	0 0 1 0 2	0 0 1 0 3	0 0 1 0 4	0 0 1 0 5	0 0 1 0 6	0 0 1 0 7	0 0 1 0 8	0 0 1 0 9	0 0 1 0 0			
* TOTALS														
Metaplasia, Squamous		1										1 1.0		
Lung		+										10		
Nose		+										10		
Olfactory Epithelium, Accumulation, Hyaline Droplet		1										1 1.0		
Trachea		+										10		
<b>SPECIAL SENSES SYSTEM</b>														
Eye		+										10		
Harderian Gland		+										10		
<b>URINARY SYSTEM</b>														
Kidney		+										10		
Nephropathy		1										1 1.0		
Urinary Bladder		+										10		

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20519 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Syntilo 1023)

CAS Number: SYNTILO1023

Date Report Requested: 05/18/2011

Time Report Requested: 08:14:41

First Dose M/F: 11/03/08 / 11/03/08

Lab: BNW

B6C3F1 MICE FEMALE 25 mg/m3	DAY ON TEST ANIMAL ID										
		0 0 9 6	0 0 9 6	0 0 9 6	0 0 9 6	0 0 9 6	0 0 9 6	0 0 9 6	0 0 9 6	0 0 9 6	0 0 9 6
		0 0 3 0 1	0 0 3 0 2	0 0 3 0 3	0 0 3 0 5	0 0 3 0 6	0 0 3 7	0 0 3 8	0 0 3 9	0 0 3 0	

\* TOTALS

### ALIMENTARY SYSTEM

NONE

### CARDIOVASCULAR SYSTEM

NONE

### ENDOCRINE SYSTEM

NONE

### GENERAL BODY SYSTEM

NONE

### GENITAL SYSTEM

NONE

### HEMATOPOIETIC SYSTEM

NONE

### INTEGUMENTARY SYSTEM

NONE

### MUSCULOSKELETAL SYSTEM

NONE

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20519 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Syntilo 1023)

CAS Number: SYNTILO1023

Date Report Requested: 05/18/2011

Time Report Requested: 08:14:41

First Dose M/F: 11/03/08 / 11/03/08

Lab: BNW

	DAY ON TEST	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
	ANIMAL ID	9	9	9	9	9	9	9	9	9	9
		6	6	6	6	6	6	6	6	6	6
		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		3	3	3	3	3	3	3	3	3	3
		0	0	0	0	0	0	0	0	1	1
		1	2	3	4	5	6	7	8	9	0

\* TOTALS

## NERVOUS SYSTEM

NONE

## RESPIRATORY SYSTEM

Larynx

Inflammation, Chronic Active

Metaplasia, Squamous

+	+	+	+	+	+	+	+	I	+	9
2	1	2	1	1	1	1	1	1	1	9 1.2
1	1	1	1	1	1	1	1	1	1	9 1.0

Lung

+	+	+	+	+	+	+	+	+	+	10
---	---	---	---	---	---	---	---	---	---	----

Nose

+	+	+	+	+	+	+	+	+	+	10
---	---	---	---	---	---	---	---	---	---	----

Trachea

+	+	+	+	+	+	+	+	+	+	10
---	---	---	---	---	---	---	---	---	---	----

## SPECIAL SENSES SYSTEM

NONE

## URINARY SYSTEM

NONE

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20519 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Syntilo 1023)

CAS Number: SYNTILO1023

Date Report Requested: 05/18/2011

Time Report Requested: 08:14:41

First Dose M/F: 11/03/08 / 11/03/08

Lab: BNW

B6C3F1 MICE FEMALE 50 mg/m3	DAY ON TEST ANIMAL ID										
		0 0 9 6									
		0 0 5 0 1	0 0 5 0 2	0 0 5 0 3	0 0 5 0 4	0 0 5 0 5	0 0 5 0 6	0 0 5 0 7	0 0 5 0 8	0 0 5 0 9	0 0 5 0 0

\* TOTALS

### ALIMENTARY SYSTEM

NONE

### CARDIOVASCULAR SYSTEM

NONE

### ENDOCRINE SYSTEM

NONE

### GENERAL BODY SYSTEM

NONE

### GENITAL SYSTEM

NONE

### HEMATOPOIETIC SYSTEM

NONE

### INTEGUMENTARY SYSTEM

NONE

### MUSCULOSKELETAL SYSTEM

NONE

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20519 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Syntilo 1023)

CAS Number: SYNTILO1023

Date Report Requested: 05/18/2011

Time Report Requested: 08:14:41

First Dose M/F: 11/03/08 / 11/03/08

Lab: BNW

		DAY ON TEST											
		ANIMAL ID											
B6C3F1 MICE FEMALE		50 mg/m3											
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	9	9	9	9	9	9	9	9	9	9	9	9	9
6	6	6	6	6	6	6	6	6	6	6	6	6	6
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	5	5	5	5	5	5	5	5	5	5	5	5	5
0	0	0	0	0	0	0	0	0	0	0	0	1	1
1	2	3	4	5	6	7	8	9	9	0	0	0	0

\* TOTALS

**NERVOUS SYSTEM**

NONE

**RESPIRATORY SYSTEM**

Larynx

Erosion, Focal

Inflammation, Chronic Active

Metaplasia, Squamous

Lung

Nose

Trachea

+	+	+	+	+	+	+	+	+	+	+	+	+	10
						1	1						2 1.0
2	2	2	1	1	1	2	2	2	2	2	2	2	10 1.7
2	3	2	2	2	2	2	2	2	2	2	2	2	10 2.1
+	+	+	+	+	+	+	+	+	+	+	+	+	10
+	+	+	+	+	+	+	+	+	+	+	+	+	10
+	+	+	+	+	+	+	+	+	+	+	+	+	10

**SPECIAL SENSES SYSTEM**

NONE

**URINARY SYSTEM**

NONE

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20519 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Syntilo 1023)

CAS Number: SYNTILO1023

Date Report Requested: 05/18/2011

Time Report Requested: 08:14:41

First Dose M/F: 11/03/08 / 11/03/08

Lab: BNW

		DAY ON TEST									
		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		9	9	9	9	9	9	9	9	9	9
		6	6	6	6	6	6	6	6	6	6
		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		7	7	7	7	7	7	7	7	7	7
		0	0	0	0	0	0	0	0	0	1
		1	2	3	4	5	6	7	8	9	0

\* TOTALS

### ALIMENTARY SYSTEM

NONE

### CARDIOVASCULAR SYSTEM

NONE

### ENDOCRINE SYSTEM

NONE

### GENERAL BODY SYSTEM

NONE

### GENITAL SYSTEM

NONE

### HEMATOPOIETIC SYSTEM

NONE

### INTEGUMENTARY SYSTEM

NONE

### MUSCULOSKELETAL SYSTEM

NONE

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20519 - 02

**Test Type:** 90-DAY

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

## Metal working fluids (Syntilo 1023)

**CAS Number:** SYNTILO1023

**Date Report Requested:** 05/18/2011

Time Report Requested: 08:14:41

**First Dose M/F:** 11/03/08 / 11/03/08

Lab: BNW

DAY ON TEST	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
ANIMAL ID	9	9	9	9	9	9	9	9	9	9
	6	6	6	6	6	6	6	6	6	6
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	7	7	7	7	7	7	7	7	7	7
	0	0	0	0	0	0	0	0	0	1
	1	2	3	4	5	6	7	8	9	0

## \* TOTALS

## **NERVOUS SYSTEM**

NONE

# **RESPIRATORY SYSTEM**

## SPECIAL SENSES SYSTEM

NONE

## **URINARY SYSTEM**

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade  
+ .. Tissue examined microscopically M .. Missing tissue  
X .. Lesion present A .. Autolysis precludes evaluation  
I .. Insufficient tissue BLANK .. Not examined microscopically

1-4 ... Lesion qualified as:

1) Minimal 3) Moderate  
2) Mild 4) Marked

TDMS No. 20519 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Syntilo 1023)

CAS Number: SYNTILO1023

Date Report Requested: 05/18/2011

Time Report Requested: 08:14:41

First Dose M/F: 11/03/08 / 11/03/08

Lab: BNW

		DAY ON TEST									
		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		9	9	9	9	9	9	9	9	9	9
		6	6	6	6	6	6	6	6	6	6
		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		7	7	7	7	7	7	7	7	7	7
		0	0	0	0	0	0	0	0	0	1
		1	2	3	4	5	6	7	8	9	0

\* TOTALS

NONE

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20519 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Syntilo 1023)

CAS Number: SYNTILO1023

Date Report Requested: 05/18/2011

Time Report Requested: 08:14:41

First Dose M/F: 11/03/08 / 11/03/08

Lab: BNW

B6C3F1 MICE FEMALE 200 mg/m3	DAY ON TEST ANIMAL ID										
		0 0 9 6									
		0 0 9 6									
		0 0 9 0	0 0 9 1	0 0 9 2	0 0 9 3	0 0 9 4	0 0 9 5	0 0 9 6	0 0 9 7	0 0 9 8	0 0 9 9

\* TOTALS

### ALIMENTARY SYSTEM

NONE

### CARDIOVASCULAR SYSTEM

NONE

### ENDOCRINE SYSTEM

NONE

### GENERAL BODY SYSTEM

NONE

### GENITAL SYSTEM

NONE

### HEMATOPOIETIC SYSTEM

NONE

### INTEGUMENTARY SYSTEM

NONE

### MUSCULOSKELETAL SYSTEM

NONE

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20519 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Syntilo 1023)

CAS Number: SYNTILO1023

Date Report Requested: 05/18/2011

Time Report Requested: 08:14:41

First Dose M/F: 11/03/08 / 11/03/08

Lab: BNW

		DAY ON TEST																			
		ANIMAL ID																			
B6C3F1 MICE FEMALE		200 mg/m3																			
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1	2	3	4	5	6	7	8	9	9	9	0										

\* TOTALS

## NERVOUS SYSTEM

NONE

## RESPIRATORY SYSTEM

## Larynx

Erosion, Focal  
Inflammation, Chronic Active  
Metaplasia, Squamous  
Ulcer, Focal

+	+	+	+	+	+	+	+	+	+	+	+	1									10
2	2	2	2	2	2	2	2	3	3	3	3										1 1.0
4	4	4	4	4	4	4	4	4	4	4	4										10 2.3
2	2					1		1	2	3											10 4.0
																					6 1.8

## Lung

Infiltration Cellular, Histiocyte  
Arteriole, Hypertrophy  
Bronchiole, Goblet Cell, Hyperplasia  
Perivascular, Inflammation, Chronic Active

+	+	+	+	+	+	+	+	+	+	+	+	2									10
							1	2													1 2.0
								3													2 1.5
									2												1 3.0
																					1 2.0

## Nose

Olfactory Epithelium, Accumulation, Hyaline  
Droplet  
Respiratory Epithelium, Accumulation, Hyaline  
Droplet

+	+	+	+	+	+	+	+	+	+	+	+	1	1								10
1	2																				2 1.0
																					9 1.8

## Trachea

+	+	+	+	+	+	+	+	+	+	+	+										10

## SPECIAL SENSES SYSTEM

NONE

## URINARY SYSTEM

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade  
+ .. Tissue examined microscopically  
X .. Lesion present  
I .. Insufficient tissue

M .. Missing tissue  
A .. Autolysis precludes evaluation  
BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

- 1) Minimal    3) Moderate  
2) Mild        4) Marked

TDMS No. 20519 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Syntilo 1023)

CAS Number: SYNTILO1023

Date Report Requested: 05/18/2011

Time Report Requested: 08:14:41

First Dose M/F: 11/03/08 / 11/03/08

Lab: BNW

		DAY ON TEST									
		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		9	9	9	9	9	9	9	9	9	9
		6	6	6	6	6	6	6	6	6	6
		0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0
		9	9	9	9	9	9	9	9	9	9
		0	0	0	0	0	0	0	0	0	1
		1	2	3	4	5	6	7	8	9	0

\* TOTALS

NONE

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20519 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Syntilo 1023)

CAS Number: SYNTILO1023

Date Report Requested: 05/18/2011

Time Report Requested: 08:14:41

First Dose M/F: 11/03/08 / 11/03/08

Lab: BNW

B6C3F1 MICE FEMALE	400 mg/m <sup>3</sup>	DAY ON TEST	0	0	0	0	0	0	0	0	0	0
			0	0	0	0	0	0	0	0	0	0
ANIMAL ID			9	9	9	9	9	9	9	9	9	9
			6	6	6	6	6	6	6	6	6	6
			0	0	0	0	0	0	0	0	0	0
			1	1	1	1	1	1	1	1	1	1
			1	1	1	1	1	1	1	1	1	1
			0	0	0	0	0	0	0	0	0	1
			1	2	3	4	5	6	7	8	9	0

\* TOTALS

## ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	+	10
Gallbladder	+	+	M	+	+	+	M	+	+	+		8
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+		10
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+		10
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+		10
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+		10
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+		10
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+		10
Liver	+	+	+	+	+	+	+	+	+	+		10
Pancreas Periductular, Inflammation, Focal, Chronic	+	+	+	+	+	+	+	+	+	+		10
							1					1 1.0
Salivary Glands	+	+	+	+	+	+	+	+	+	+		10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+		10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+		10

## CARDIOVASCULAR SYSTEM

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

M .. Missing tissue

X .. Lesion present

A .. Autolysis precludes evaluation

I .. Insufficient tissue

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20519 - 02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Metal working fluids (Syntilo 1023)

CAS Number: SYNTILO1023

Date Report Requested: 05/18/2011

Time Report Requested: 08:14:41

First Dose M/F: 11/03/08 / 11/03/08

Lab: BNW

B6C3F1 MICE FEMALE	400 mg/m <sup>3</sup>	DAY ON TEST											* TOTALS
			0 0 9 6										
		ANIMAL ID	0 1 1 0 1	0 1 1 0 2	0 1 1 0 3	0 1 1 0 4	0 1 1 0 5	0 1 1 0 6	0 1 1 0 7	0 1 1 0 8	0 1 1 0 9	0 1 1 0 0	
Blood Vessel			+ + + + + + + + + +										10
Heart			+ + + + + + + + + +										10
<b>ENDOCRINE SYSTEM</b>													
Adrenal Cortex			+ + + + + + + + + +										10
Adrenal Medulla			+ + + + + + + + + +										10
Islets, Pancreatic			+ + + + + + + + + +										10
Parathyroid Gland Cyst, Multiple			+ + + + + M X + + + +										9 1
Pituitary Gland			+ + + + + + + + + +										10
Thyroid Gland			+ + + + + + + + + +										10
<b>GENERAL BODY SYSTEM</b>													
NONE													
<b>GENITAL SYSTEM</b>													
Clitoral Gland			+ + + + + + + + + +										10
Ovary			+ + + + + + + + + +										10
Uterus			+ + + + + + + + + +										10

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

TDMS No. 20519 - 02

**Test Type:** 90-DAY

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** MICE/B6C3F1

## P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

## Metal working fluids (Syntilo 1023)

**CAS Number:** SYNTILO1023

Date Report Requested: 05/18/2011

**Time Report Requested:** 08:14:41

**First Dose M/F:** 11/03/08 / 11/03/08

Lab: BNW

DAY ON TEST	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
ANIMAL ID	9	9	9	9	9	9	9	9	9	9
	6	6	6	6	6	6	6	6	6	6
	0	0	0	0	0	0	0	0	0	0
	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1
	0	0	0	0	0	0	0	0	0	1
	1	2	3	4	5	6	7	8	9	0

**\* TOTALS**

## **HEMATOPOIETIC SYSTEM**

## **INTEGUMENTARY SYSTEM**

## MUSCULOSKELETAL SYSTEM

Bone + + + + + + + + + + + 10

## **NERVOUS SYSTEM**

**Brain** + + + + + + + + + + + **10**

## RESPIRATORY SYSTEM

\* = Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ Tissue examined microscopically

X Lesion present

✗ .. Lesion present  
| Insufficient tissue

#### M Missing tissue

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Lab: BNW

B6C3F1 MICE FEMALE	400 mg/m <sup>3</sup>	DAY ON TEST											* TOTALS	
			0 0 9 6											
ANIMAL ID														
	Larynx	+ + + + + + + + + +												10
	Inflammation, Chronic Active	2 2 3 2 2 2 2 3 2 3												10 2.3
	Metaplasia, Squamous	4 4 4 4 4 4 4 4 4 4												10 4.0
	Ulcer, Focal	2 1 3 3 2 1 2												7 2.0
	Lung	+ + + + + + + + + +												10
	Infiltration Cellular, Histiocyte	3 2 2 2 2 2 3												3 2.7
	Arteriole, Hypertrophy	2 2 2 2 2 2 2												3 2.0
	Bronchiole, Goblet Cell, Hyperplasia	4 2 2 2 2 2 3												3 3.0
	Perivascular, Inflammation, Chronic Active	3 3 3 3 3 3 3												3 3.0
Nose		+ + + + + + + + + +												10
	Olfactory Epithelium, Accumulation, Hyaline Droplet	1 1 2 1 2 1 2 1 2 1												9 1.4
	Respiratory Epithelium, Accumulation, Hyaline Droplet	4 3 3 4 3 2 3 3 4 4												10 3.3
	Trachea	+ + + + + + + + + +												10
<b>SPECIAL SENSES SYSTEM</b>														
Eye		+ + + + + + + + + +												10
Harderian Gland		+ + + + + + + + + +												10
<b>URINARY SYSTEM</b>														
Kidney		+ + + + + + + + + +												10
Nephropathy		1												1 1.0
Urinary Bladder		+ + + + + + + + + +												10

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\*\*\* END OF REPORT \*\*\*

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